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1st Auditor

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THE SEMI-WEEKLY UNION, will be published every Wednesday and Saturday, at $4 per annum for one copy; $10 for three copies; and $15 for five copies.

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SCIENTIFIC INTELLIGENCE.

A NEW WHITE METAL.—A new alloy, which does not appear to tarnish more readily than ordinary white metal, and which is considerably cheaper, has just been discovered by Mr. W. Sharman, and it is thought probable that it will, to a great extent, supersede the various Brittania metals now in use. The alloy consists of tin, 16 parts; lead, 3 or 4 parts; zinc, 5 parts; and differs only from all similar compounds on record from the much larger percentage of zinc it contains. In the process of manufacture the zinc is first melted at as low a heat as possible, the tin is next added, and finally the lead. The whole is well stirred up with a green wood pole, to insure perfect mixture, and to prevent oxydation, for which latter purpose a coating of borax and the addition of a little resin will be found useful. The whole operation must be conducted as quickly as possible, and excess of heat avoided. The proportions may be modified as required, more zinc giving less ductility, and more tin giving more flexibility and a better color. For teapots, and articles of a like character, the alloy composed of 16 parts tin, 3 parts zinc, and 3 parts lead, is preferable. These alloys being easily fusible, care must be taken in the selection of the solder. The new alloy can be rolled and spun, and will, therefore, be easy of application to a large variety of purposes.

HOW TO STOP BLOOD.—Take the fine dust of tea or the scrapings of the inside of tanned leather, and bind it close upon the wound, and blood will soon cease to flow. These articles are at all times accessible and easy to be obtained. After the blood has ceased to flow, laudanum may be advantageously applied to the wound. Due regard to these instructions will save agitation of mind, and running for the surgeon, who would probably make no better prescription if present.

NEW METHOD OF CONSTRUCTING BOILERS.—A method of constructing boilers, so as to collect and remove the sediment deposited from impure water, has been brought to public notice. The boiler is formed with a narrow water-space division or pocket, extending from the under side of the boiler at the furnace down to and through the line of furnace bars. The water-space opens at its upper wide end into the bottom of the boiler, which has a row of openings in its shell at that part to form the communication. The boiler itself is set slightly out of the horizontal line, the furnace end being somewhat lower than the reverse end. Hence the impurities of various sorts contained in the water are continually directed towards the front or surface end, where it falls from the boiler into the narrow bottom of the water-space or pocket.

CEMENT FOR ROOFS.—An excellent cement for seams in the roofs of houses, or in any other exposed place, is made by mixing equal proportions, by weight, of white lead, dry white sand, and as much oil as will make it into the consistency of putty. The cement becomes in a few weeks as hard as a stone.

A HARD AND DURABLE SOAP.—A patent has been granted in England for an improvement in the manufacture of soap, by the addition of sulphate of lime to the usual ingredients employed it its manufacture. The sulphate may be added to the soap in a dry powder, or in admixture with any of the usual ingredients employed in the manufacture of soap. The proportions of the sulphate which it is best to employ vary according to the article manipulated upon, and the quality of the soap to be produced. Thus, about twelve ounces of dry sulphate is sufficient for one ton of best soap, whereas, in common or highly liquored soap, six or eight pounds may be used with advantage. Soap made with the addition of sulphate of lime becomes hardened, keeps dry, and is not liable to shrink while in water, its durability is increased, and it does not wear or waste away before its cleansing properties are brought into action.

LAYING SUBMARINE CABLES.—Captain S. Samuels, of Brooklyn, N. Y., has invented a method of laying submarine cables, by passing them from the ship or other vessel from which they are to be paid out, through an opening in the bottom, as near as convenient and practicable, midway between stem and stern, where the least motion is produced by the pitching of the vessel. By this means the liability to break the cable is very much reduced, if not entirely obviated, as at a certain point in the centre of a vessel's length there is comparatively little motion produced by pitching, so that the excessive and uneven strain or jerk which so much tends to rupture cables when paid out from the stern is here avoided, the danger being correspondingly lessened, and the cumbrous machinery and complicated mechanism of brakes and paying-out devices simplified and reduced. This idea has often been proposed, but Captain Samuels has been able to show the priority of his invention, and has, consequently, obtained a patent.

A NEW LIGHT.—A new species of inflammable mineral, termed "illuminating clay," has been discovered by Mr. Frederic H. Southworth. Mr. Southworth is an American resident of Rio Janerio. He has tested the properties of this clay and applied the same to the making of gas. He reports that it gives 7 cubic feet of gas to the pound, while coal gives but 3½ cubic feet to the pound. The article is of the color of clay, and otherwise looks like coal in its pure state; it will burn like wax when held in the flame of a match. It is said to be found in large deposits on the banks of navigable rivers in Brazil, and the discoverer anticipates that it will be used by all gas companies in Brazil, and become an article of exportation. The Brazilian government have taken the matter under consideration. Mr. Southworth has applied for a patent for the privilege of making gas from this material in Brazil.

HOW RAIN IS FORMED.—To understand the philosophy of this phenomena, essential to the very existence of plants and animals, a few facts derived from observation and a long train of experiments must be remembered. With the atmosphere everywhere at all times at the full temperature, we should never have rain, hail, or snow. The water absorbed by it in evaporation from the sea and the earth's surface would descend in an imperceptible vapor, or ceased to be absorbed by the air when it was once fully saturated. The absorbing power of the atmosphere, and consequently its capability to retain humidity, is proportionably greater in warm than cold air. The air near the surface of the earth is warmer than it is in the region of the clouds. The higher we ascend from the earth the colder we find the atmosphere. Hence the perpetual snow on a very high mountain in the hottest climate. Now, when, from continued evaporation, the air is highly saturated with vapor, though it be invisible, if its temperature is suddenly reduced by cold currents descending from above, or rushing from a high to a low latitude, its capacity to retain moisture is diminished, clouds are formed, and the result is rain. Air condenses as it cools, and, like a sponge filled with water and compressed, pours out the water which its diminished capacity cannot hold. How singular, yet how simple, is such an arrangement for watering the earth.—*Scientific American.*

TO LAY THE CABLE.

Mr. Samuel Samuels, of Brooklyn, New York, recently obtained a patent for "certain new and useful improvements in the laying of sub-marine telegraph cables." What he claims is passing the cable from the ship or vessel, through the bottom thereof, at or near the point by him specified. He also claims the employment to conduct the cable to the bottom of the vessel, and to exclude the water from the opening in the bottom where the cable leaves it, of a tube, the whole of the lower part of which has a downward inclination toward the stern of the vessel, substantially as and for the purpose specified.

Owen G. Warren, of New York, has also received a patent for a similar purpose. His plan for laying the cable is to wind it on a reel immersed in the water, nearly to the suface, and tow it across the ocean. To this end he would make the cable only so much more than the specific gravity of the water as would be requisite to sink it with the necessary rapidity.

James Rodgers, a youth of seventeen, left a country village to go to New York city. Arriving there he was led into evil courses; and one night, while on a drunken frolic with two associates, he met in Tenth avenue Mr. Swanston, a respectable old gentleman, walking in the street with his wife. Some of the party jostled against Mr. Swanston; a few words passed between them, and Rodgers, without more ado, drew a knife and stabbed the man, inflicting a mortal wound. For this crime he was sentenced in New York on Saturday to be hanged. His youth and prepossessing appearance excited a great deal of sympathy, and no efforts have been spared to avert his impending fate. The governor was petitioned for pardon, but it was refused, and he will expiate his crime on the 12th of November next on the scaffold.

THE SALT MINES OF CRACOW.

BY BAYARD TAYLOR.

After descending 210 feet we saw the first veins of rock salt in a bed of clay and crumbled sandstone. Thirty feet more and we were in a world of salt. Level galleries branched off from the foot to the staircase: overhead a ceiling of solid salt, under foot a floor of salt, and on either side dark gray walls of salt, sparkling here and there with minute crystals. Lights glimmered ahead, and on turning the corner we came upon a gang of workmen, some hacking away at the solid floor, others trundling wheelbarrows full of the precious cubes. Here was the chapel of St. Anthony, the oldest in the mines—a Byzantine excavation, supported by columns, with altar, crucifix, and life-size statues of saints, apparently in black marble, but all as salt as Lot's wife, as I discovered by putting my tongue to the nose of John the Baptist. The humid air of this upper story of the mines has damaged some of the saints. Francis, especially, is running away like a dip candle, and all of his head is gone except his chin.

The limbs of Joseph are dropping off as if he had the Norwegian leprosy, and Lawrence has deeper scars than his gridiron could have made, running up and down his back. A Bengal light turned at the altar brought into sudden life this strange temple, which presently vanished into darkness as if it had never been seen.

I cannot follow step by step our journey of two hours through the labyrinths of this wonderful mine. It is a bewildering maze of galleries, grand halls, staircases, and vaulted chambers, where one soon loses all sense of distance or direction, and drifts along blindly in the wake of his conductor. Everything was solid salt, except where great piers of hewn logs had been built up to support some threatening roof, or vast chasm, left in quarrying, had been bridged across. As we descended to lower regions, the air became more dry and agreeable, and the saline walls more pure and brilliant. One hall, 108 feet in height, resembled a Grecian theatre, the traces of block taken out in regular layers representing the seats for the spectators. Out of the single hall 1,000,000 cwt. of salt had been taken, or enough to supply the 40,000,000 inhabitants in Austria one year.

Two obelisks of salt commemorated the visit of Francis I and his Empress in another spacious irregular vault, through which we passed by means of a wooden bridge resting on piers of the crystalline rock. After we had descended to the bottom of this chamber, a boy ran along the bridge above with a burning Bengal light, throwing flashes of blue lustre on the obelisks, on the scarred walls, vast arches, the entrance to deeper halls, and the far roof, fretted with the picks of the workmen. The effect was magical—wonderful. Even the old Prussian, who had the face of an exchange broker, exclaimed, as he pointed upwards: "It is like a sky full of cloud lambkins." Presently we entered another and loftier chamber, yawning downward like the mouth of hell, with cavernous tunnels opening out of the further end. In these tunnels the workmen, half naked, with torches in their hands, wild cries, fire-works, and the firing of guns, (which here so reverberate in the imprisoned air that one can feel every wave of sound,) gave a rough representation of the infernal regions, for the benefit of the crowned heads who visit the mines. The effect must be indeed diabolical. Even we, unexceptionable characters as we were, looked truly unearthly in our ghostly garments, amid the livid glare of the fire-works.

A little further we struck upon a lake four fathoms deep, upon which we embarked in a heavy square boat, and entered a gloomy tunnel, over the entrance of which was inscribed (in salt letter) "good luck to you!" In such a place the motto seemed ironical. "Abandon hope, all ye who enter here," would have been more appropriate. Midway in the tunnel, the halls at either end were suddenly illuminated, and a crash, as of a hundred cannon bellowing through the hollow vaults, shook the air and water in such wise that our boat had not ceased trembling when we landed in the further hall. Read Tasso:

> "Treman le spaziose atre caverne,
> *E'l der cieco in quel rumor rimbomba,*"

if you want to hear the sound of it. A tablet inscribed "heartily welcome!" saluted us on landing. Finally, at the depth of 450 feet, our journey ceased, although we were but half way to the bottom. The remainder is a wilderness of shafts, galleries, and smaller chambers, the extent of which we could only conjecture. We then returned through scores of tortuous passages to some vaults where a lot of gnomes, naked to the hips, were busy with pick, mallet, and wedge, blocking out and separating the solid pavement.

The process is quite primitive, scarcely differing from that of the ancient Egyptians in quarrying granite. The blocks are first marked out on the surface by a series of grooves. One side is then deepened to the required thickness, and, wedges being inserted under the block, it is soon split off. It is then split transversely into pieces of one cwt. each, in which form it is ready for sale. Those intended for Russia are rounded on the edges and corners until they acquire the shape of large cocoons, for the convenience of transportation into the interior of the country.

The number of workmen employed in the mine is 1,500, all of whom belong to the "upper crust;" that is, they live on the outside of the world. They are divided into gangs, and relieve each other every six hours. Each gang quarries out, on an average, a little more than 1,000 cwt. of salt in that space of time, making the annual yield 1,500,000 cwt.! The men we saw were fine, muscular, healthy-looking fellows, and the officer, in answer to my question, stated that their sanitary condition was quite equal to that of the field laborer. Scurvey does not occur among them, and the equality of the temperature of the mines—which stands at 54 deg. of Fahrenheit all the year round—has a favorable effect upon such as are predisposed to diseases of the lungs. He was not aware of any peculiar form of disease induced by the substance in which they work, notwithstanding where the air is humid salt crystals form upon the wood-work. The wood, I may here remark, never rots, and, where untouched, retains its quality for centuries. The officer explicitly denied the story of men having been born in these mines, and having gone through life without ever mounting to the upper world. So there goes another interesting fiction of our youth.

It requires a stretch of imagination to conceive the extent of this salt bed. As far as explored, its length is two and a half English miles, its breadth a little over half a mile, and its solid depth 690 feet! It commences about 200 feet below the surface, and is then uninterrupted to sandstone, such as forms the peaks of the Carpathian mountains. Below this there is no probability that it again re-appears. The general direction is east and west, dipping rapidly at its western extremity, so that it may no doubt be pushed much further in that direction. Notwithstanding the immense amount already quarried—and it will be better understood when I state that the aggregate length of the shafts and galleries amounts to *four hundred and forty miles*—it is estimated that at the present rate of exploration the known supply cannot be exhausted under 300 years. The tripartite treaty, on the portion of Poland, limits Austria to the present amount—4,500,000 cwt. annually—of which she is bound to furnish 80,000 cwt. to Prussia, 800,000 cwt. to Russia, leaving 4,000,000 cwt. to herself. This sum yields her a net revenue from the mines of two millions of florins—$1,000,000—annually.

It is not known how this wonderful deposit—more precious than gold itself—was originally discovered. We know that it was worked in the 12th century, and perhaps much earlier. The popular faith has invented several miracles to account for it, giving the merit to favorite saints. One, which is gravely published in "The History of Cracow," states a Polish King, who wooed a Princess Elizabeth of Hungary (not the saint of Wartburg) in the tenth century, asked what she would choose as a bridal gift from him—something that would most benefit his people. The marriage ceremony was performed in a chapel in one of the salt-mines of Transylvania. Soon after being transferred to Cracow, Elizabeth went out to Wielicska, surveyed the ground, and after choosing a spot, commanded the people to dig. In the course of a few days they found a salt crystal, which the Queen caused to be set in her wedding ring, and wore until the day of her death. She must have been a wonderful geologist for those days. The bed actually follows the Carpathians, appearing at intervals in small deposits, into Transylvania, where there are extensive mines. It is believed, also, that it stretches northward into Russian Poland. Some years ago the Bank of Warsaw expended large sums in boring for salt near the Austrian frontier. There was much excitement and speculation at the time; but, although the mineral was found, the cost of quarrying it was too great, and the enterprise was dropped.

MOSLEM DISTURBANCES IN SYRIA.

[From the Boston Traveller, October 4.]

We have late private advices from Syria, from which it appears that the troubles there are by no means at an end. It is now certain that the Mussulmans are doing all in their power, by every means, to resist the reforms initiated by the Sultan, and more especially those which tend to the prejudice of their faith. Europeans are objects of their peculiar hatred. Insurrections are feared in every city where the Franks have any foothold. At Alexandria the residents live in constant fear of a rising of the Arabs and the burning of the city. News of murders in all parts of the country is constantly being received. The cruelties practised at Jeddah and Jaffa are being repeated in many smaller places. Routes that were formerly safe are now considered as impassable, and the whole country is now an unsafe residence for Europeans.

The whole power of the Sultan and of the Pashas is exerted to its fullest extent to produce quiet, but only has thus far resulted in turning the rage of the fanatics against the existing government, and in giving rise to a plot for dethroning the Sultan and giving the sceptre to his brothers. So well known is this plot that a number of the ambassadors to Constantinople have given out that Europe will not recognise the title of the Sultan's brother in the event of a successful termination of the rebellion.

Our last advices from Alexandria show a horrible state of things. Our correspondent says: "There we heard of the murder of many Franks by the fanatical Mussulmans; and the report reached us that the Turks had secreted five thousand muskets at one time and twenty thousand at another in their mosques, to be used in a general rising for the destruction of the Franks and Christian residents of the city."

We have seen a letter from Beirut of late date, in which it is stated that the American Consul for that place arrived there about the middle of July with his family, and that the raising of the flag of the consulate, for the first time in sixteen months, was a pleasant sight for the American residents. The trial of the Jaffa criminals was then in progress; and it was regretted that the Dixon family, whose numbers were thinned by the Arabs there, had returned to America, as it was feared that some of the miscreants might escape punishment by lack of means for their identification. It will be recollected that the remainder of this family, who belong in Massachusetts, reached Boston but a few days since.

A rumor of disturbances at Mount Lebanon had reached Beirut, and the Pasha there, who is only second in dignity to the Grand Vizier, had, upon the representations of the consuls at that place, despatched a troop of soldiers to quell the rebellion, as well as to protect the foreigners. A number of missionaries on their way to different parts of Palestine were at Beirut awaiting the execution of the Jaffa criminals, fearing that it might cause a general insurrection throughout the country, and preferring to remain under the protection of the guns of the men-of-war collected in the harbor.

The writer of the above-mentioned letter, which is dated August 11th, says: "An English man-of-war arrived here yesterday, and a French man-of-war came last week. A Turkish frigate stationed here sailed for Tripoli a few days since, where an outbreak was rumored to have commenced. Next week it is expected that there will be six steamers in the harbor; so, if a general rising should take place, we can escape. There are also about forty sail of merchant vessels in the harbor, of all nations except our own. We need an American man-of-war here, and expect one as soon as the exigencies of the public service will permit."

From all accounts the only safety for Franks in that country is under the guns of their national frigates.

A STATESMAN'S HOME.

[From the Macon, Ga., Telegraph.]

As the traveller passes over the Georgia railroad from Atlanta to Augusta, he will observe on the summit of a ridge on the outskirts of the village of Crawfordsville a two-story wooden house well shaded by a grove of venerable oaks, and with a lawn in front gently sloping to the south, planted with no great regard to order in shrubbery and fruit trees.

The house is without any pretension to modern architectural style—but is built after the fashion and in conformity with the plans of the country residences of wealthy Georgia planters thirty years ago.

This modest mansion, with its novel and attractive surroundings, is the domicil of a gentleman who has occupied no small share of public attention for the last fifteen years. He is known to his immediate circle of friends as "Aleck"—to his neighbors and acquaintances of Taliaferro county as "Squire Stephens"—and to the republic at large as "Stephens of Georgia." The name of Alexander H. Stephens, is a household word in the eighth congressional district.

Mr. Stephens began to practise law in Crawfordsville about the year 1834, and boarded in the family of the estimable gentleman who resided in and owned the house to which we have referred above. At his death Mr. Stephens was left his executor, and at the sale of the real estate became the purchaser of the house and twenty acres of land adjoining, and has resided there since that time when not an attendant on public duties at Washington. Until recently no material changes were made in the house, and even now to the front view it stands as originally built—two stories, porch with plain columns, eight rooms, passage in the middle, &c. Recently two rooms, intended for library and bed chamber, and a small and airy passage, have been added to the house.

North of the mansion and on the slope of a hill are the garden, orchard, and vineyard, and if a visitor in the month of August should tarry a day in the quiet village near by, and should gratify a pardonable curiosity by looking over the place, he will find a well-selected and choice variety of fruits—peaches, pears, apples, strawberries, grapes, &c. While strolling over the garden, if the visitor will cast his eye northeastward, he will see the smoke curling up from the chimneys of a farm-house about two miles distant, and on the highest point of land in the circuit of his vision.

This is the treasured spot, above all others, to Mr. Stephens. It is his family homestead, the place where his grandfather settled shortly after the revolution—the place where his father lived and died, and the place upon which the statesman was born. A ride of a half hour, over a broken but beautiful country, will bring you to the farm, and on the right of the road, and but a short distance from the farm buildings, on the top of a hill, is the spot where his father lived. The buildings have all been removed, and there are no traces to the eye of a stranger left to mark the spot, but they are indeliby impressed upon the memory of Mr. Stephens. Just under that clump of trees is the spring, still flowing pure and free, from which he drank; near by is the grove of wide-spreading oaks under whose refreshing and friendly shade he was accustomed to play, and all around are the hills over which he clamored when a boy. All these mementoes of youth are treasured recollections with a man whose name is famous for eloquence, learning, and patriotism, from the Arostook to the Rio Grande. And it is refreshing to observe the influences of home and hearth and youthful associations, upon so exalted a nature and such a lofty intellect; to see a great man with such affections glowing, spreading, and kindling with tremulous feeling over the recollections of early home and boyhood, in this utilitarian, practical, unromantic age, makes one feel and know that the "great events with which old story rings" are not all vain and hollow. Reader, pardon the episode. The farm, at the death of the father of Mr. Stephens, was sold, and went into possession of strangers to the blood, but as soon as the young lawyer secured the means, he repurchased the old homestead. The lands have been in cultivation for more than half a century, but by a judicious system of manuring, ditching, and drainage many fields which were turned out as exhausted and worthless have been reclaimed, and, under the improved methods of cultivation, yielded a return for labor almost equal to virgin soil. About four miles west of Crawfordsville, and in full view of the railroad, may be seen the vineyard of Mr. Ax, who has been so successful in making wine from our native grape.

The experiments of Mr. Ax with the grape conclusively demonstrate that Middle Georgia, in climate and soil, is peculiarly adapted to the cultivation of the vine, and that vineyards may be made a source of revenue to the Georgia planter. Acting upon this idea, Mr. Stephens has made an auspicious beginning; his vines at his home and farm place are thrifty and promising, and, if the seasons are propitious next year, we shall not be surprised to see and hear frequent mention made by connoisseurs of the marvellous flavor and fruity virtues of Stephens's Catawba of the vintage of '59. So mote it be.

We understand that Mr. Ax has a large supply of superior wines for sale; the dry Catawba of the vintage of '56 being the best; this last having passed muster in Washington and Savannah, places where, to use the language of a friend about another matter, there are many good judges.

The chief charm, however, of the old house and its appurtenances, agreeable as they are, is in the host. Let a stranger visit this hospitable home—see the devotion of his servants—the love and affection of his friends—his simple, unaffected and charming manners—listen to his words of wisdom, his instructive conversation—his agreeable reminiscences of past times, and the great men who figured on the stage of action when he first entered the political arena—let him learn from his neighbors, as he surely will, of his profuse charities, his neighborly kindness, and he will not then wonder why Alexander H. Stephens is so much loved, revered, and honored among those who have known him longest and best.

THE ARTESIAN WELL AT LOUISVILLE—INTERESTING HISTORY OF ITS PROGRESS AND COMPLETION.

[From the Louisville Courier.]

Artesian wells are named from Artesium, the ancient name of Artois, a province of France. They were successfully bored in that country at an early period, and hence took the name of this province.

These wells were known in ancient times, as we find accounts of them by classic authors. That strange people, the Chinese, who are far behind us in civilization, bored artesian wells, and printed with blocks of wood long before we thought of either of these arts. It is not our purpose, however, to enter into a history of these wells. The subject is interesting, but we have not time or space to do it justice at present.

The deepest artesian well in the world is that at St. Louis, bored by the Messrs. Belcher for their sugar refinery. It is 2,199 feet in depth. The next deepest is the one in Louisville, bored by the Messrs. Dupont to supply their paper mill with water. It is 2,086 feet in depth. Both of these wells were the result of private enterprise, and they exceed any in the world which governments have undertaken. The third deepest is at Kissengen, in Bavaria, 1,878 feet, and the fourth at Grenelle, near Paris, 1,806 feet. There are but few others known that go much deeper than those which have been sunk in the great desert of Sahara.

But it is with the well in our own city that we are concerned at present. It is the greatest curiosity in Louisville. It will repay a visit, whether to be viewed with the eye of science or that of curiosity in search of sights. The water, now thrown out in a beautiful jet, comes from a distance of 2,086 feet in the bowels of the earth, and the force necessary to raise a perpendicular column of fluid that distance is wonderfully great. A subterranean sea at that depth, with no vent but that of the orifice of this well, 2,086 feet above, with this column of water weighing upon it, would receive a pressure sufficient to heave up the superincumbent earth, and scatter its fragments to the winds above.

The Messrs. Dupont undertook this well as a private enterprise, to supply their paper-mill with water. It seems, however, that the water may be more valuable for medical purposes than for making paper. It has been thoroughly analyzed by Prof. J. Lawrence Smith, of the University of Louisville, whose reputation as a chemist needs no endorsement from us.

The analysis shows that the water of this well is similar to that of the saline chalybeate of Kissengen, in Bavaria, whose medical properties are celebrated all over the world. More than half a million bottles of the Kissengen water are sent each year to the sick and afflicted everywhere. Such being the fact, the Messrs. Dupont ought to be prevailed upon to bore this well no deeper, for fear of losing this stream. It may be worth much more for healing the sick than for making paper. We trust that, if they must have water for their mill, they will bore another well, and leave this one as it is until experience teaches how many of the ills that flesh is heir to it will cure.

We have kept a record of the different strata through which the auger has gone in reaching this great depth, but Mr. Kellogg, the superintendent of the mill, has kept a more accurate one; and we understand that Prof. Smith is now preparing a scientific report upon the subject. We shall not do more at present, therefore, than to enumerate the penetrated strata according to the popular names. When Prof. Smith's report comes out we may recur to the subject again.

The boring of the well began on the 1st of April, 1857. The first 76 feet passed through the sand and gravel upon which our city rests. Then solid rock was struck, and the auger afterwards went though the following formations according to the depths affixed:

Gray limestone	100 feet.
Dark shale	12 "
Gray limestone	52 "
Red marl	5 "
Gray limestone	81 "
Shale	157 "
Dark limestone	149 "
Green soft shale	13 "
Blue limestone	207 "
Blue limestone mixed with shale	33 "
Gray limestone	94 "
Gray limestone, with slate	26 "
Light gray limestone, very hard	40 "
White clay	1 "
Gray limestone	545 "
Sandstone	41 "
White marble	4 "
Sandstone	19 "
Sandstone mixed with light shale	36 "

At this point, a depth of 1,627 feet, the first water was penetrated that rose to the orifice of the well. This water was not satisfactory, and the boring was resumed. In going the remaining distance of 458 feet through limestone, with occasional interruptions as above, several different streams of water were struck. At a depth of 1,879 feet a more powerful stream flowed, and at a depth of 1,900 feet sulphur water rose considerably above the mouth of the well. After this depth was reached, every accession of ten feet added to the stream of water, until a depth of 2,036 feet was attained. At this point the present stream of water, throwing out 225 gallons of water per minute, or 324,000 per day, was reached. The force of this stream is such that with an inch nozzle the water is thrown to the height of 60 feet above the surface of the earth."

The following is a list of the medical colleges and hospitals of Philadelphia: Medical department of the University of Pennsylvania; Jefferson Medical College; Medical department of Pennsylvania College; Philadelphia College of Medicine; Philadelphia College of Pharmacy; Homœopathic Medical College; Female Medical College; Electric Medical College; Pennsylvania Medical University; Medical Institute of Philadelphia; Philadelphia College of Dental Surgery; Philadelphia School of Anotomy; College Avenue Anatomical School. Hospitals, &c. Pennsylvania Hospital; Pennsylvania Hospital for the Insane; Philadelphia Hospital, Blockley; Wills Hospital, (disease of eye and limbs;) City Hospital, (small pox, ship fever, &c.;) St. Joseph's Hospital; Episcopal Hospital; Children's Hospital; University Hospital and Dispensary; Jefferson College Hospital and Dispensary; Pennsylvania College Hospital and Dispensary; Philadelphia College Hospital and Dispensary; Lazaretto Hospital and Quarantine Station; Friend's Asylum for the Insane; Preston Retreat (Foster Home Association;) Charity Hospital, Buttonwood street; Philadelphia Lying in Charity; Home for Invalids with disease of the Chest; Western Clinical Infirmary; Philadelphia Dispensary; Northern Dispensary; Medical Department; House of Industry; Homœopathic Hospital. The above list naturally leads to the thought of the immense income Philadelphia derives from her medical schools, which amounts to nearly a million per annum.

The path of the comet pierces the plane of the orbit of Venus at a point near the orbit itself, and Venus and the comet are both approaching this point. Venus will pass it first, about the 12th, and the comet only one week after; but this interval will give ample scope to the latter to pass without collision, its train included, for at the rate at which these travellers on the celestial highways proceed, the first twenty-four and the second thirty-six miles per second, when nearest, on the 18th, they will yet be eight or ten millions of miles asunder. If, however, further observation shows that the comet's motion is more rapid than supposed above, or the attraction of the planet accelerate its mode of travel, the proximity may be greater. It will be worth while watching the comet at this time, to observe whether it undergoes any marked physical changes.